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AUTHOR Green, Georgia M.
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ABSTRACT

Most of the ordinary words in a language do not mean; rather, they act as rigid designators, referring to the same object in all possible words in which the object exists. Most words are names that are used as rigid designators of kinds--natural kinds (species, genre, and so forth), artifacts, physical and social magnitudes, and sorts of activities, states, properties, situations, and events. As they designate kinds, it does not make sense to speak of them as having senses or meanings. Although it is appropriate to say that some words (e.g., orphan, kill, or pediatrician) have a sense of meaning that might change with time, kind-name references change, apparently, because the kind has changed, not the term. A few words seem to lack not only sense, but also reference. Some (e.g., all or and) have this property because they are syncategorematic, but contribute to the semantics of an expression according to logical rules. Others (e.g., yikes, damn, or the) do not contribute to the sense at all, but only to the pragmatics, that is what is to be inferred from what was said by reference to the conditions governing the use of such words. It is therefore folly to assume that the reference of most words is determined by their sense of intention. (HOD)

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Technical Report No. 307

SOME REMARKS ON HOW WORDS MEAN

Georgia M. Green
University of Illinois at Urbana-Champaign

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University of Illinois
at Urbana-Champaign
51 Gerty Drive
Champaign, Illinois 61820

Bolt Beranek and Newman Inc.
10 Moulton Street
Cambridge, Massachusetts 02238

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Some Remarks on How Words Mean

> "Must a name mean something?" Alice asked doubtfully. (Through the Looking Glass, Lewis Carroll)

I am going to argue that for most words, the notion "the meaning of the word x" simply does not make sense. I understand the phrase meaning of a word to refer to the sense or intension that a word is supposed to have, and on that interpretation, I will argue that most of the most ordinary words in a language don't mean. This is not an attempt to define meaning, but only to say what I am referring to when I use that word, namely the core of cases common to most mainstream writers on the topic. Although words may be used to refer, they do this not by the invocation of anything I would want to call a sense, whether senses be taken to be stereotypes or lists of criteria. They are used to refer, rather, as NAMES for kinds of objects or properties (or events, or whatever) in the manner of terms that Kripke (1972) has called rigid designators.

My interest in this matter originates in problems of linguistic description: what must a linguistic description of a language say about how the words in the language contribute to a determination of the truth-conditions (or satisfaction conditions) for sentences in which those words are used? What must a grammar say about, e.g., the word feather, beyond listing it as an English word, a count noun, and specifying its phonology?

It may well turn out that the ideas I present are not particularly original. If Kripke (1972) is to be believed, some of them go back as far as John Stuart Mill (1843), and something similar to several others can be found in the works of Searle (1978), Kripke (1972), McCawley (1975),

Nunberg (1978) and Putnam (1965, 1970, 1973, 1975a,b).[1] And if Putnam's (1975b, p. 274) perception is correct, some of them are not even very controversial. Still, despite the availability of these ideas, I have not seen much discussion of them by or for linguists. Indeed, most of the discussion of semantics I have seen concerns sentence semantics (what Partee (1981) calls "structural semantics"), and takes word semantics entirely for granted, simply stipulating that the intensions of words are functions that pick out their extensions, and leaving it at that. They make no reference to any particular theory of what these functions look like. The main exception is Dowty (1979), who offers complex analyses of a number of verbs.

Thus, current theories of semantics, namely those of the truth-conditional sort, are basically concerned to give an account of the meaning of a sentence (like Snow is white) in terms of the meanings of the constituent terms (snow and white), but they don't say anything about the latter beyond the fact that they denote their extensions (snow means snow and white means white). Thus Snow is white is "true" if what snow refers to has the property that white refers to. But truth-conditional accounts of this sort, valuable as they are in accounting for the meaning of a sentence in terms of the meanings of its parts, do not address the sorts of questions that have concerned students of word meanings: what does one know if one knows the meaning of snow? (or more simply: What does snow mean?)

In the next section I will sketch some recently proposed theories of word meaning, and in the following section, an alternative in which words refer by naming kinds, but without having to have senses or meanings. In

section 4, I discuss what I mean by kinds. Section 5 describes the causal-historical theory of reference which is the foundation for the claim that words as names rigidly designate kinds. Section 6 offers first, some more or less linguistic arguments in support of this theory, and second, an emendation of Putnam's interpretation of it. Finally, I discuss what I believe the domain of this theory is, and what kinds of words are not covered by it. I conclude that the reference of only a relatively small class of words is determined by something that can be called their "meaning."

Theories of Lexical Meaning

Probably the type of theory of lexical meaning that is most familiar to linguists is what Fillmore (1975) has called the "checklist" theory of meaning. This characterization applies to any theory which claims that words are logically represented as either ordinary definite descriptions or as a conjunction of criteria, of which all, or some privileged or statistically significant subset must be satisfied for the word to be correctly applied to a given object (Putnam, 1970, p. 140). Checklist theories are exemplified by Katz and Fodor's 1963 semantic theory, by Weinreich's (1966) syntactified feature analyses, by Carnapian meaning postulates, by generative semanticists' lexical decomposition (McCawley, 1968; Green, 1969, 1972), and in a parametrized version by Labov's (1973) variationist descriptions.[2] A checklist theory seems to be implicit in all theories which treat the extension of a term (or set of things it is used to refer to) as a function of its sense. Despite the fact that each of these various theories has been vigorously denounced by proponents of one

or more of the others, they make a common claim: that the meaning of a word is represented by a list of necessary and sufficient criteria, and any object or concept that that word is supposed to refer to or describe must meet all (or in modified versions: a significant subset) of those criteria.[3]

However, in spite of their popularity and apparent intuitiveness, checklist theories have been criticized, mainly by philosophers (Putnam, 1970, 1975a; Stampe, 1972) and psychologists (Smith & Medin, 1979). The alternative proposed by the psychologists,[4] and favored by some linguists (Fillmore, 1975) is the theory that word meanings should be represented by stereotypes, or in the terminology that (against all logic) has become standard, prototypes. The familiar example is Berlin and Kay's (1969) analysis of color terms: there are, in any culture, colors which are stereotypic reds, blues, etc., and which are, by virtue of being stereotypic, psychologically salient and easily and uniformly identified. But one can also demonstrate colors which are not considered stereotypic, and because these colors are not easily identifiable with any stereotypes, people (therefore) cannot reliably or confidently or uniformly name them. Prototype theories of word meaning take the situation with color terms to be representative of word meaning generally.

At least three varieties of the prototype theory of meaning may be distinguished. Lakoff's theory of fuzzy logic (1972), expanding on the work of Zadeh (1965), is a prototype theory in that it treated (some) category memberships, and thus the truth of predications, as a matter of degree.

A quantitative version of prototype theory treats prototypes as abstract summaries of modal properties: properties common to the greatest number of experienced exemplars. Thus, if I have encountered just four dogs: a German shepherd, a Samoyed, a Husky, and a Yorkshire terrier, and have come to know of each that it is a dog, my understanding of dog will include the properties 'typically long-haired' and 'typically weighing over fifty pounds.' Furthermore, these modal properties are weighted for how well they correlate (as necessary criteria) for category membership. (Thus, there are checklistical aspects of even the prototype theories.)

Instead of this more or less quantitative view,[5] prototypes may be regarded as (representations of) one or more particular exemplars of a species (cf. Rosch & Mervis, 1975). A prototype name is then APPLICABLE to an individual to the extent that the individual RESEMBLES the prototype. Major problems in arriving at an empirically vulnerable formulation of this theory involve first, specifying what counts as resembling (e.g., foxes may be orange and brown, like robins, and bats may fly, but that doesn't make either of them birds), and second, specifying the theory so that it makes predictions which will differentiate between atypical and/or defective individuals (one-legged ducks, etc.) on the one hand, and marginal subspecies (e.g., ostriches, penguins) on the other.

Prototype theories seem to imply that word meanings are acquired by ostension (one learns the word dog, say, by being told of something demonstrated: "This is a dog"), along with some sort of inductive generalization.[6] Checklist theories say nothing about how word meanings are acquired, but predict much more directly than prototype theories that they can be described without ostensive references ("orphan means 'child

whose parents are dead,'" "bird means 'feathered winged animal,'" "kill means 'cause to die'").

There are alternatives to checklist theories of meaning that do not involve stereotypes, of course, for example: theories of meaning as use. Alston, for instance, defined (1963, p. 409) "'x' means y" intralinguistically as "'x' and 'y' have the same use" where x and y are words or other meaningful sentence-components, and considered the development of a general method for specifying the use that an expression has to be one of the major tasks of semantic theory. Firth described his theory (Firth, 1951, 1957) of meaning-by-collocation as a theory wherein the meaning of words lay in their use, but that theory is not at all of the sort Alston describes. Rather, it is a theory that treats the meaning of a word as an abstraction of what words it can be combined with in phrases. This is similar to the Bloomfieldian treatment of the meaning of a linguistic form as "the situation in which the speaker utters it and the response which it calls forth in the hearer" (1933, p. 139). Although the only definition Labov (1973) provides is actually a description of use, he denies that his theory identifies meaning with use.

All of the theories referred to so far have taken it for granted that it makes sense to speak of "the meaning of a word." The meaning of a word is variously: a set of criteria, an abstract prototype (like a pro-form in historical linguistics, I guess), a function of resemblance to specific exemplars, or some sort of characterization of its use. I would like to make a case for the proposition that for most words it just doesn't make sense to say that they MEAN anything, that there is no such thing as "the

meaning of a word," and that such words don't HAVE meanings. Most words are, rather, names for kinds of things, and, as names, may be used to REFER to things as rigid designators (a la Kripke, 1972). This clearly isn't true of all words. Indexicals like I, him, my, here are used to refer to individuals, etc., without being names for them, and some words don't even refer at all. Before I finish, I will discuss how I think other words which are not names of kinds, such as the, and, and kill might be treated.

Rigid Designators

In this section I sketch what is meant by the term rigid designator, and explicate what I mean by claiming that most ordinary words are rigid designators, and why it therefore does not make much sense to talk about their 'meanings'.

In calling words rigid designators, I am referring to Kripke's (1972) theory, which says that an expression is a rigid designator if it designates the same object in all possible worlds in which the object exists. Thus, the phrase the Pope is NOT a rigid designator, since it will refer to different individuals on different occasions. Someday (or in some possible world), it might even refer to an American, or a woman. But Nixon, to use Kripke's example, is a rigid designator, because on all occasions of use it will refer to the individual who in the real world was in fact the son of So-and-So and So-and-So, and was elected President of the United States in 1968 and 1972, and resigned in 1974, etc.[7] Names for kinds, I will claim (along with Putnam and Kripke, and, no doubt, others) are similar: we use the word lemon to refer rigidly to whatever objects share the essential characteristics of individuals of the kind people call "lemon."[8]

Thus, to me it makes no more sense to speak of "the meaning" of a word like cat or clock (or lemon or pencil) than it does to speak of the meaning of a name like Robin Morgan (or Aristotle or Scott). In saying that, for most words, it does not make sense to speak of "the meaning of the word w" I do not intend to be understood as rejecting the idea of semantics. While I AM arguing that words do not MEAN, I do not maintain that there is 'no such thing as meaning.' However, it is, I feel, misleading to speak of words as meaning something, or indeed as DOING anything, except insofar as they are uttered in a speech act. Speakers USE words to REFER, but it is the speakers who do the REFERRING, who MEAN something, or mean (i.e., intend) to refer to something by the words (cf. Linsky, 1966). Speakers can mean, in the sense 'intend to be understood to be saying, or referring to, or asserting, requesting, etc., even implicating' and propositions can mean, in the sense 'entail,' but words do not mean all by themselves, even in the sense 'refer.' Speakers refer, when they are talking, to objects in possible worlds (including the real world), and one of the ways they do it is relatively[9] directly by using the name for the kind of object they wish to be understood as referring to. (Other ways include demonstratives (this), gestures (pointing), glancing, and description (e.g., saying "the author of Waverly" to refer to Scott, or "those things you cut meat with" to refer to knives, to what knives is used to refer to). Of course, we say "the word x refers to y" (even I say it, and I've been convinced of the essential folly of it for four years), but I will treat this as shorthand for "the word x is used to refer to y."

Thus, I take referring to be a relation between a speaker and an entity (or situation, or property or relation) in some possible world, including the real world, which holds for a particular utterance.[10] It is a central notion, essential for the success of compositional semantics, but it does not depend (for most words at least) on there being anything like a notion of 'sense' or 'meaning' if words are construed simply as names for kinds, anymore than the name Georgia Green has to have a sense to refer to me. It's just my name (or actually, one of my names).

In treating the contribution of individual words to sentence semantics as a matter of reference, ultimately indexical (cf. Putnam, 1975a, p. 234), not sense, I am treating so-called "word meaning" as more pragmatics than semantics. Not entirely pragmatic though, for the notion of indicating an entity by invoking its name is (or at least may be construed as) a semantic notion. What does this apparently radical theory mean for the description of linguistic competence? My view is that, for most words, knowledge of a relation between a linguistic form and a referent is no more a part of grammar than is such patently encyclopedic knowledge as knowing the name of the inventor of the transistor. Among the things that we, as human beings, know about the world is that objects, states, and relations in it are categorizable into types, or kinds. In addition to knowing personal names for individuals, we know the names of kinds. Thus, we know that a certain person is called Fred Householder, that a certain city is called Indianapolis, that a certain horse was called Man O'War, and a certain fictional whale called Moby Dick. We also know that a certain kind of animal is called a "dog," that a certain kind of fruit is called a "lemon," that objects with certain properties or characteristics are called

"pencils," that activities of a certain sort are called "running," those of a more specialized sort called "sprinting," etc. Thus, it seems to me that it is at least as much a fact about pencils that we call them "pencils," as it is a fact about the word pencil that it refers to pencils. And the latter doesn't seem to be a particularly significant fact about the English language. This is clearer if we recall that refers is to be interpreted as 'is used to refer to,' and is, I hope, obvious when we reflect on the case of proper names: we think of it as a fact about some person that she/he has the name she/he has, not as a fact about the name, that it is used to refer to that person. We can't deny that it is a fact about the word pencil that it is used to refer to pencils, just as it is a fact about the word pencil that it has six letters in its contemporary orthographic representation, but there doesn't seem to be any point in saying that the former fact is any more a part of grammar, of strictly linguistic competence, than the latter is.

It follows from this approach that there is not much point to discussions of what "senses" a word may have (cf. also Nunberg, 1978). Word senses are at best an epiphenomenon if words are merely names for kinds; one may dispute the reference but not the sense of Johann or Aristotle. Like proper nouns, and deictic and overtly indexical expressions, natural kind terms are essential to compositional semantics in the sense that they can be used to refer, to point to a particular individual or pick out a particular kind of activity, etc. But it is still as nonsensical to do a semantic analysis of the word clock as it would be to do one of Fred or Panasonic, even though inferences, including

inferences of set relations, may be derivable from the USE of the term, for the inferences are about the sets, not about the words. I cannot emphasize this point enough; most of the enormous literature on semantic networks and semantic memory by psychologists is really not about words but about the kinds which words name.

Kinds

In this section I make a strict distinction between kinds and names of kinds. In suggesting that (most) words are literally names for (kinds of) things, I am saying that they are semantically unanalyzable designations for (semi-analyzable concepts) of kinds of things. Just because a concept is analyzable, it does not follow that its name is analyzable. It is, I think, uncontroversial that we do categorize the world, and classify objects into kinds. that is how we know that Sam and Skipper and Fido, and indeed, poodles, and huskies and mongrels generally, are all dogs. However, I am not claiming or assuming that in doing so we assume each entity or type of entity to be of only one kind. Our classifications may be, as in this example, hierarchical, but they may also (instead, or in addition) cut across each other: running is a kind of exercise, a kind of sport, and a kind of locomotion. A particular species of bird may be a kind of shore bird, a kind of sexually dimorphic bird, and a kind of migratory bird. In both cases, the categories are neither proper subsets of each other, nor mutually exclusive with each other.

It also happens that the same word may be used to refer to quite diverse kinds, even ignoring metaphorical usages, just as different individuals may have the same personal names. Thus, plant is the name of a large category of organisms, of a kind of building, and of a kind of

activity involving seeds and an intention that they grow. Bank is the name of a kind of financial institution, of a part of a river or creek bed, and of a kind of maneuver involving causing a projectile to ricochet off a fixed surface towards a target (cf. footnote 9 for other examples).

Of course, our classifications are not exhaustive, either; we may encounter an object and not know what to call it. This might be because we do not know what it IS, what its characteristics are; this is an empirical question, and is, in principle at least, easily resolved. On the other hand, we may know what its properties are, but still not know if it is a member of a kind we have previous knowledge of, or, perhaps, a novel kind. This may be no longer a strictly empirical question, but is the gap in our knowledge of words, or of things? We could say that the reason we can't tell is that we aren't sure of the exact "meanings" of the WORDS that are candidates, say, elm and beech, or we could say that we don't know enough about the KINDS that are candidates to tell if the object in question is a member of one of those kinds or not. The converse case arises when we know that a word (for example, smarmy) refers to a kind of something (namely, behavior), but are quite ignorant of how to identify or recognize that kind. In both cases, I would say that the defect is not in our knowledge of grammar--all the grammar ever tells us is that the word is an English word,[11] a member of this or that syntactic category, has such-and-such an underlying phonological representation, is an exception to these phonological and these syntactic rules. Rather, I would say that the deficit is in our knowledge of the world, our knowledge of kinds. We have an incomplete knowledge of the kinds that this object or event most

resembles. I know what the word smarmy refers to--it refers to a kind of behavior (and not a kind of fabric, say, or a kind of soil)--but I don't know what kind of behavior IS smarmy. Putnam knows what elm and beech refer to: kinds of trees. He probably knows that they're both deciduous kinds of trees, but, he says, he doesn't know enough about elms and beeches to be able to tell the difference.[12]

The Method to the Madness: The Causal Theory of Reference

This section is a digression on how reference is accomplished through rigid designation since it is being denied that the ordinary means is via senses. At this point, I suppose that this may appear a rather anarchic and mystical view of language use: if words don't mean or even refer (by themselves), if speakers can feel free to use words while being ignorant (whether unconsciously or even admittedly) of the essence of the entities they use them to refer to, how can the fact of interpersonal communication ever be explained? On the one hand, I would observe that communication is not successful as often as participants may think it is. Furthermore, I subscribe to Reddy's (1979) view that in general, communication is not usefully thought of as a matter of decoding someone's encryption of their thoughts, but is better considered as a matter of guessing at what that someone has in mind, on the basis of clues afforded by the way that person says what she/he says. However, I am definitely not an anarchist or a mystic. Guessing what someone means when she/he says something is an unavoidable step in the interpretation of every utterance, from syntactically simple (and pragmatically wonderfully underdetermined) utterances like Lunch! to utterances as apparently semantically precise as

He hasn't gone to jail yet (cf. Grice, 1975; Green, 1982; Yanofsky, 1982 for discussion). Its importance cannot be underestimated.

All I am proposing here is that, along with guessing WHY a speaker said what she/he said, at various levels of recursion, in accordance with Grice's Cooperative Principle and the corollary maxims, a hearer must guess at what referents were intended by the utterance of various phrases. This is obvious enough with anaphoric terms like he, clear, but less obvious with proper names like Bob, and no less important with kind names in definite and indefinite NPs such as the ham sandwich or an elm. But communication through language does succeed to a satisfactory extent, and it succeeds to the extent that it does because language use is a social and cultural phenomenon. It is in the best interests of the members of a linguistic community to act as if there were a social contract and maintain more or less standard references for standard words in the language. Little children, in this permissive age, do not seem to realize this. After being told that what he has called a "pregnant marker" is (what others call) a permanent marker, my son says, "I can call it a pregnant marker if I want, can't I?" I tell him, "Yes, you can, but you can't expect people to understand what you mean." I may be a liberal, but I'm no anarchist.

Strictly speaking, it is impossible for there to be standard references for standard words, as it is impossible to know what is in another person's mind, and know what she/he uses, say, egregious to refer to. (Nunberg (1978) has an extended example involving the interpretation of an invitation to listen to some jazz which makes this abundantly clear.) But in fact we all do seem to act as if there were standard references. In

Putnam's (1975b, p. 290) words characterizing theories of reference, "language and thought do asymptotically correspond to reality, to some extent at least."

According to Putnam, this social contract involves a division of linguistic labor (Putnam, 1975a, p. 227-229) wherein only some experts have to know what a certain kind IS; when ordinary folk use the name for that kind, they designate (rigidly) whatever it is that experts understand the kind to consist in. In one of his papers, Putnam makes it clear (Putnam, 1965, p. 128) that experts don't know the language better than ordinary folk, they only know (one aspect of) the world better. In the case of proper names, the one who bestowed the name has this privileged position. The relation in rigid designation between the "experts" or other name-bestowers' decree of a kind name, and the use by ordinary folk of that name is that of a continuous chain or dependency of usage. One uses gold to refer to what one's informant said gold is. Thus, as Kripke says, as a rough statement of his view of designation:

> An initial baptism takes place. Here the object may be named ostensively, or the reference of the [name] may be fixed by a description. When the name is 'passed from link to link,' the receiver of the name must, I think, intend when he learns it to use it with the same reference as the man from whom he heard it. (Kripke, 1972, p. 302)

Kripke suggests that the situation is little different for names of kinds:

> . . . the species name may be passed from link to link, exactly as in the case of proper names, so that many who have seen little or no gold can still use the term. Their reference is determined by a causal (historical) chain, not by use of any items . . .

> Usually when a proper name is passed from link to link, the way the reference of the name is fixed is of little importance to us. It matters not at all that different speakers may fix the name in different ways, provided that they give it the same referent. The situation is probably not very different with species names, though the temptation to think that the metallurgist has a different concept of gold from the man who has never seen any may be somewhat greater. (Kripke, 1972, p. 330-331)

Indeed, in one paper, Putnam suggests (1973, p. 205) that experts' fixing the use of a term to refer to a kind by some arcane test is just a subcase of the use of a term being causally connected to an introducing event.

Evalution

Dubbing. In this section, several arguments are considered which may be taken to support the claim that most common ordinary words refer via the same mechanism as proper names. It is clear that the theory I have sketched[13] of what licenses our usage of words to refer to entities in real or possible worlds has its roots in philosophical concerns. This is not to imply that it's idle speculation; both Kripke and Putnam ring the changes on several examples (Gedankenexperiments) to test various aspects of their analysis. But how does it fare against the background of linguistic concerns? What I want to do here is offer first, some more or less linguistic arguments in favor of this view of how words are used to refer to things, and then, a modification of Putnam's account of the causal theory of reference. The first argument is a relatively feeble one concerning the psychological reality of the baptism that this theory postulates. The second concerns the problem of attributing contradictory beliefs to speakers on the basis of the "meanings" (senses) of the words they use.

The causal theory may provide the germ of an explanation for certain homely and/or otherwise troublesome facts. For one thing, it provides a referent for the they that occurs in sentences like (1).

(1) Why did they change the name from "airship" to "blimp?"[14]

They clearly refers to whatever experts or name bestowers are supposed (by the questioner) to be responsible for the kind blimp having the name "blimp." Notice that the questioner has not asked why WE call those things "blimps." She/he has assumed that someone has named them that, and that we call them that because that's their name.

Or, suppose a child asks you a question like (2). Adults usually only ask such questions if the term at issue is morphologically analyzable (whether correctly or not) as in (3).[15]

(2) Why is fire called "fire?"

(3a) Why do they call the programs "software?"
(3b) Why do they call it a "shirtdress?"

The second kind of question is easier to answer, because you can assume that the questioner is someone to whom you can attribute an understanding of metaphor, and basic rules of semantic combination, and who is simply having trouble (re)constructing[16] a relation between the meanings of the morphemes and the meaning of the whole expression. You can ignore the they, and everything that you know as a linguist about the social and conventional nature of language, language history, language change, and l'arbitraire du signe, and reconstruct a plausible relation, and say something like:

(4a) To distinguish them from the hardware--the physical parts of the system.
(4b) Because the bodice buttons like a shirt.

But suppose you are called on to answer a question like (2). You cannot give an explanation that involves explicating metaphors and relating the references of constituent parts; fire is monomorphemic and non-metaphorical. Armed only with the Saussurean notion that the relation between a linguistic sign and what it represents is essentially arbitrary, and a Fregean theory of sense and reference (cf. Frege, 1892), you are stuck with saying something like (5) or (6).

(5) It just is.

(6) Because that's what fire means (or: . . . refers to).

These may sound like arbitrary responses, little better than "Because!"--a non-answer which considerate, rational people are not supposed to resort to. But since your theory tells you that (5) or (6) is all there is to tell, you must console yourself with having at least been honest, and saying all there was to say.

If you replace the standard theory of reference with something like the causal theory, you can do a little better, with something on the order of (7).

(7) Because that's how Grimm's law and the Great English vowel shift, etc., have affected the form *pur, which is what the Proto-Germanic folk, from whose language ours is descended, called it.

If your answer is understood, and followed up with, "Why did they call it that?" of course, the best you can do may be to say, "I don't know," but surely that's still a better answer than "Because it is." If the question had been (2')

(2') Why do we call fire "fire?"

a good answer can refer straightforwardly to the causal theory and the conventionality of language. One might say (7'):

(7') Because that's what everyone else calls it, and we want them to know what we're talking about.

It is perhaps worth noting that the notion of words 'having meanings' or 'meaning something' comes relatively late in language acquisition. Very young children ask for the names of things, never for the meanings of the words that are the names. A two-year-old asks "What's that?" and is told, "That's a scale for weighing coffee beans." It doesn't occur to him to ask, "What's _scale_ mean?" or even "What's _weighing_ mean?"[17]

Contradictory beliefs. A lot of people are bothered by assertions that what a person knows may include sets of propositions which entail that that person believes a contradiction. To take an example familiar from an old joke, a person may believe that all odd numbers are prime, and know that 9 is odd, and know also, at least in the back of his mind that 3 times 3 is 9, but it may, for whatever reason, have failed to register with him that if 3 times 3 is 9, then 9 is not prime, so that not all odd numbers are prime. A similar problem arises if the vehicle which warrants using a word to refer to some substance is taken to be a sense or DESCRIPTION of the distinguishing properties of that substance, and a person knows the name of some kind, but doesn't happen to know everything about that kind. For example, if, when you refer to milk by using the word _milk_, you are, unbeknownst to you, referring to a substance with some recherche property--say, that it is allergenic to and/or not digested by a large portion of the world's population, especially in Africa and Asia, you may still believe, and assert (8), without involving yourself in a contradition.

(8) Milk is a nutritionally perfect food.

You're wrong; that's all. Because you don't know that milk has this property, you have made a false statement, but you haven't committed yourself to the contradictory belief that something which is of dubious nutritional value to some people is nutritionally perfect. If milk is just a name for a certain substance, and isn't a description, by means of which it MEANS some conjunction of properties by which we distinguish milk from other substances, then there can be no question of contradiction. Sentence (8) is no more a contradiction than a sentence like (9):

(9) Ringo Starr is a forward for the Celtics.

They're both just false. (Similarly, sentence (10):

(10) Milk is a white colloidal liquid.

is no more analytic, and no more redundant or tautological than a sentence like (11):

(11) Larry Bird is a forward for the Celtics.)

If I use the word water like a normal speaker, I merely need to know what kind of stuff "water" is the name of. I don't have to know everything about water to know how to use the word. Knowing what stuff the word water (or milk) is used to refer to, and knowing everything about that stuff are not the same, and must be carefully distinguished. Water "means"--that is, is used to refer to--the stuff we call "water"[18] and to know that, you don't need to know very much about water at all.

Putnam attempts to account for this phenomenon by positing a difference between ordinary speakers, who know merely what kind of thing a word names, and 'expert' speakers who possess in addition to that knowledge, a way of recognizing some kind, who can distinguish exemplars of it from entities which only superficially resemble it. In this way, he

says (1975, p. 228) even the most recherche fact about something "may become part of the social meaning of the word while being unknown to almost all speakers who acquire the word."

Now, if we take Putnam literally, since people regularly make false statements about natural kinds, we must conclude that they have not learned their language completely, since they demonstrably do not know the "meanings" of the words they have used to make statements which must be contradictions on the analysis implied by a literal interpretation of this passage. Since none of the experts Putnam postulates is an expert on everything, and the division of linguistics labor is supposed to be a universal property of linguistic communities, it follows that no languages are known.[19] Clearly there is a defect in Putnam's interpretation of this phenomenon.

Part of the problem seems to be that Putnam uses the term meaning extremely loosely, and this is unfortunately, pervasive in his writings on meaning.[20] For example, he says (1970, p. 148) that if lemons came to be universally blue then the MEANING of the word lemon would have changed.[21] I would say that the REFERENCE of lemon had not changed at all--it is still the name of a kind of fruit--but lemons would certainly have changed. Another part of the problem seems to lie in the concept of 'expert speakers.'

The non-necessity of experts. I have argued that my interpretation of the causal theory of reference provides a reasonable account of speakers' knowledge of how to use words that are names of (at least some) kinds of things. The standard examples have been the names of biological species

and chemical elements and compounds, and it is plausible in these cases that there do exist experts of the sort that Putnam's theory presupposes.

But what about even more homely words like dirt, or Labov's example, cup? No agronomist will consent to supply a test for dirt-hood; it is part of a folk-classification of the world, and does not figure in scientific theories at all. To find out what dirt is used to refer to, you have to ask housekeepers and little kids. And, dollars to doughnuts, you'll get a range of variation in your answers, as Labov did with cup. Thus, the stereotypic cup is made of an opaque, vitreous material, and has a handle and a bowl, concave sides, and a height to width ratio of about .7. But Chinese teacups, and styrofoam, and paper, and plastic cups have no handles; their bowls may have straight, perpendicular or oblique sides; punchcups are usually transparent. And people will disagree as to which of these may be called plainly "cups." Dirt is stereotypically soil, but isn't dust also dirt? And automobile greast and exhaust? What about smudgy fingerprints? There is no technical characterization or decisive test, so there are no experts for the causal chain to stop at,[22] and indeed, Putnam admits (1975a, p. 228) that "some words do not exhibit any division of linguistic labor: chair, for example." That means they do not require experts for the determination of their reference. But if the common consensus about the core cases is sufficient to determine what kind of stuff a name is used (n.b. by a community) to refer to in these cases, what need is there of reference to experts, even in those cases where the existence of experts is plausible? If dirt and chair refer to what they refer to without the invocation of experts, why do water and gold and lemon need experts to have their reference fixed? There is no need for me to

deny that some people know more about some stuff than most of the rest of us. But that doesn't affect the reference of the term, or what justifies our using that term, for that stuff. Yes, there is a causal (historical) connection in general; kinds and individuals are called what they are called because somewhere, sometime, someone called them that. But who, or when, or where makes no difference. All that is required is that there be a continuous chain. This requirement is really no more than the statement that language is a social, cooperative institution. As Kripke says (1972, p. 331): the way the reference of a name is fixed is of little importance; what matters is that there be a chain, and that for each name, speakers understand the same referent.

Other Words, Other Kinds

In this section I argue that there is no reason not to extend the analysis of words as rigid designators beyond the relatively small class of words used to refer to kinds that occur in nature. I then discuss words which refer by means other than rigid designation, and words which do not refer at all. Most of the examples that have figured in Putnam's and Kripke's discussion of the determination of reference have been proper names or common nouns referring to what Putnam calls natural kinds: water, tigers, gold, beech, elm, lemon, aluminum, molybdenum. Putnam mentions (1975a, p. 242) that the points he has made about natural kind words apply to many other kinds of words as well. They designate rigidly, via a causal chain which involves ostension, and therefore indexicality: "the word water refers to this kind of stuff," "what do you call that stuff?"--"Water." He mentions artifact names: pencil, bottle, chair; verbs: grow

(1975a, p. 244), and adjectives: red (1975a, p. 244). Kripke remarks (1972, p. 327) that his analysis applies to words referring to natural kinds and natural phenomena, whether they are count nouns or mass nouns or corresponding adjectives.

Putnam assumes a different treatment for what he calls one-criterion words (1962, pp. 65-70) such as bachelor (Schwartz (1977) calls these nominal kinds); a third treatment for what he calls physical magnitude words, terms like: heat, kinetic energy, straight line, which he treats as being defined in terms of clusters of laws of physics they are subject to (1962, p. 52), though he rejects the parallel property-cluster treatment of natural kind words; and a fourth kind of analysis for syncategorematic words such as all, the, whole (1975a, pp. 244-245), which contribute to the meaning of a sentence only when construed with other expressions, though he suggests (1975a, p. 245) that they have "more of a one-criterion character."[23]

I would agree with Putnam in treating artifact names (e.g., pencil, robot, chair, also corduroy, plastic) as names which are used to rigidly designate kinds, just as much as natural kind names, and I see no reason to limit the treatment to names for tangibles. I see no reason to think that physical magnitude terms such as are used to refer to heat, light, and electricity refer to what they refer to by means of a mechanism any different from the one argued to hold for terms like water and gold. Furthermore, it seems to me that invented "social magnitudes" such as democracy, prayer, and aggression hold their names through the same indexical historical chain. Linguistic derivation may, of course, be involved in addition, for example, in the adverb quickly. But in other

cases (e.g., prayer), linguistic derivation may be more relevant historically than synchronically, and more important in synchronic morphology than in a synchronic account of semantics.

I would also argue for treating names for kinds of activities (running, basting,[24] drinking, cramming), states (intending, jealousy, cleanliness), properties (tall, dark, handsome) and situations (giving, growing) as rigidly designating what they refer to, and I assume Putnam would agree with this. Note that informal explanations of the words designating such states often involve something like ostension, in citing exemplars, as in (12) and (13).

(12) Happiness is a warm blankie.

(13) Jealous is when you're mad because someone else has something you want.

In all of these cases, the names we use for these types of kinds are just an incidental part of our knowledge of the kinds. Even Putnam, in a fit of fastidiousness (1975a, p. 248) insists on our saying that people "'acquire' words; rather than 'learn their meaning'."

Well, are there any words that HAVE meaning, in my view, any whose meaning (sense, intension) we can learn? Yes, I think so, namely Putnam's one-criterion words, words like kill, bachelor, orphan, pediatrician, which refer not by naming, but by describing. If these words should come to be taken to refer to anything but what they are now taken to refer to, we would have to conclude that the language had changed. Thus, lemon might come to refer to blue fruits with a single large seed like an avocado, if lemons evolved in that manner, and we would say that lemons changed, not the word lemon. But if physicians certified as pediatricians began--as a

matter of principle--to treat mothers as well as infants and children, and we continued to call them "pediatricians," then we should have to say that the sense of pediatrician had changed as well. To take another example, the verb type, as in (14), originally referred (via a back-formation, no doubt) to an activity which involved striking keys on a typewriter to produce an impression of a letter on paper.

(14) I typed six pages on my Olivetti.

In the past one hundred years our "word processing" technology has advanced to a stage where we can use type to refer to striking keys on a computer terminal keyboard regardless of whether images are produced (whether on paper or a cathode ray tube), and indeed, we can use this verb to refer to the activity of touching designated spots on flat (keyless) "keyboards." It seems to me, that if another technological advance allowed us to cause representations of letters (etc.) to be stored as representations of linguistic expressions in a computer's memory merely by directing our eye gaze or alpha-waves to the task, we might still call it "typing." Typing would certainly have changed--has already changed--but saying that the word type has "undergone a change in meaning" does not seem to me to explain anything, or even perspicuously describe this little history.

On the other hand, kill MEANS 'cause to die,' or in the words of the Oxford English Dictionary, 'put to death,' and has meant that ever since the 14th century. In the 13th century it referred simply to the activity we call "striking." Do we say that, well, killing changed, so that living things died as a result of it, or that the verb kill acquired a meaning, 'cause to die,' which it retains to this day? The latter, I think. I am

not sure what property of kill makes it different from type. Perhaps it is its reference to an effect; persuade, lighten, shut, and even orphan are similar in making crucial reference to an effect. Another example: if we stopped using pencils to write with, and they just came to be bric-a-brac, and maybe even ceased to contain graphite, or any erodable core that would leave a semi-permanent trace, we could still call them pencils. Pencils would have changed, and it would be informative to say (15)

(15) In the 20th century, pencils had a core of graphite and people wrote with them.

just as we can say

(16) In Victorian times, bathing suits covered almost the entire body.

If the word pencil MEANT 'bric-a-brac of a certain form' we would (incorrectly) be claiming in uttering (15) that people used to write with bric-a-brac. If words like pencil are just names for kinds, we can say that both kinds are called pencils, but they are not the SAME kind.

This obviously does not entail that any word that undergoes a semantic change has lost or acquired a meaning. If semantic change refers to having one class of referents (extension) at one point in history and a different class at another point, most 'semantic changes' are just name changes: we call the species canis familiaris dog, and a particular subvariety hound; our ancestors had it the other way around. But we needn't say that dog and hound have changed their meanings so therefore they have meanings. Both are simply names for kinds, and there has been variation, change, and, no doubt, confusion in which kind they name. Likewise, bathing suit and type refer today to things quite different from what they referred to 100 years ago. But all that has changed is the kind that the word names. In these

cases, the kind itself has changed. In the case of hound and dog, people have changed what name they give to what kind. But in the case of kill, no kind has changed--striking is a kind of activity, but what we call killing is not a different KIND of activity, but the causation of an effect. Kill acquired a non-trivial LOGICAL entailment.

Perhaps one more example may help. Sometime in the middle of the 20th century the phrase longhair music was introduced to refer to classical music. The motivation for the term is probably that certain high-profile male performers and/or conductors had strikingly and unfashionably long hair, though it may have been that aficionados were stereotyped as men who were too concerned with intellectual matters to remember to get their hair cut. In any case, when the popularity of 1960s rock groups made long hair fashionable among the young, and a symbol for idealistic youth, strongly associated with rock music, the term longhair music did not come to refer to rock music, because longhair is a NAME for a kind of music, not a description of it, or its performers or aficionados. I do not think I can make the difference between being a name and being a description any clearer.

What I think these examples show is that some referring terms, like water, type, cup, and elm may be used to refer by virtue of being NAMES for kinds of things, while other referring terms, like orphan, pediatrician, and kill can be used to refer in virtue to the fact that they are logically DESCRIPTIONS--they refer (attributively) to what they describe, while terms like gold and type are used to refer (referentially) to what they name.[25] The difference is in the nature of the mechanism of reference. When things

in the world change, they keep their same names--lemons evolved to large blue or tiny red fruits are still lemons. But, obviously, when things referred to by description change, their old decriptions may no longer fit; if the description, the MEANING of the term, doesn't change to fit the world (in which case it will look like it was a name all along, which may account for why some people find the pediatrician example confusing), then the word may become as obsolete as its referent.

The history of kill seems to indicate that, for a given word, the mechanism of reference can change in the course of time, just as the referent, and thus the reference relation may change, as in the case of type. In the case of kill, what was a kind name was reinterpreted as a description. The converse change is apparently also possible, and seems to be in progress with the verb dial. Before the invention and widespread use of pushbutton telephones, the denominal verb dial seems to have been a description of making a telephone connection by using a telephone dial. It still means that way for some people, who feel compelled to use a different verb to refer to the act of making such a connection by means of a pushbutton phone, but for other speakers, dial is just the name for the activity of making a telephone connection, and they can do it with pushbuttons, or magnetic cards, or whatever other mechanism might be required, and still call it dialing.

Obviously, if the mechanism of reference can be reinterpreted, just as motivated pragmatic habits can be reinterpreted as arbitrary grammatical rules (Morgan, 1978), and arbitrary phonemic sequences can be reanalyzed as motivated morphological combinations (folk-etymologies), then we must

expect that at any given time, a linguistic community will exhibit variation and indecision in some particular cases.

Variation cannot be construed, however, as a litmus for an unstable reference mechanism, for the inferencing and guessing that are necessarily involved in the transmission of names via the historical chain would generate variation and indeterminacy with borderline cases there as well. As noted before, I might know what gold is, but not always be sure, for any x, if x is gold, or agree with some other speaker, expert or not, on whether x is gold. And because the descriptions that indicate the reference of thos words which refer attributively may not cover all cases, we may expect to find variation and indeterminacy there as well. Just because I can't say whether a woman whose husband dies on the day their divorce becomes final is a widow or not, and you and I can't agree on whether the Pope is a bachelor doesn't mean that widow and bachelor are either kind names, or undergoing a change of reference or reference-mechanism.

Finally, some words do not even refer--whether by naming or by having a sense. This includes the syncategorematics, like all, whole, and and, which seem to require treatment as logical operators rather than as referring expressions of any sort. But it also includes words for which the best we can say is that they have use-conditions, words like damn, ouch, please, hello. The interjection Damn! doesn't refer to any entity, state, or event; and it doesn't mean 'I'm mad,' but it is appropriately used when one is angry and disappointed, and doesn't mind letting the world know. The adjective damn doesn't mean 'disliked' or 'accursed,' but people use it when they don't mind letting anyone in hearing know that they have

negative, possibly contemptuous feelings about the referent of the noun it modifies. In support of the claim that the usage of such words is governed not by any function involving reference, but by pragmatic, context- and intention-oriented use conditions, let me cite the following incident. At three, my daughter asked me, "What does God bless you mean?" I tried to tell her what it meant literally, but none of three separate attempts satisfied her. Finally, a little desperate, I said, "It's what you say when someone sneezes or something so they'll know you want them to feel better."[26] This satisfied her. Later, at three-and-a-half, she started to ask, "What does yike mea---" and corrected herself: "When do we say yike?" So I gather that the distinction between words that can mean and at least this class that only has use-conditions was quite real to her.

The definite article is also a fine candidate for this category. Its USE INDICATES (cf. Strawson, 1950) that the speaker has a definite referent in mind (the sun, the postman, the doorknob) and expects the hearer to be able to infer or calculate what that referent must be, but a speaker in using it does not (contra Russell, 1905) assert existence or uniqueness. Its use to refer generically to entire species (e.g., the tiger) (cf. Nunberg & Pan, 1975) and the arbitrary usages involving it (cf. Morgan, 1975) would seem to support this. For example, the British say ten shillings the ounce where we would say ten shillings an ounce, and at the end of English-language movies it says The End (while French movies end with just Fin, even though articles are obligatory in more positions in French than in English). The interpretation of a phrase like the gray sweater would involve not only the use-condition just described, but also

rules of combination applying to references to kinds (to indicate that the reference was to a kind of thing called a sweater which was of a kind of color called gray), and something like Grice's maxims, from which the hearer will be expected to figure out which gray sweater was being referred to.

While I claim that use-conditions (and maybe grammatical category information and phonological information) are just about all we know or can know about these words, I am not proposing a meaning-as-use (or use-as-meaning) acount for them, because I claim that they do not have meaning. It makes even less sense to say that words like ouch have meaning than to say that words like lemon do, for words of the former sort cannot even be used to refer, and certainly don't describe or predicate, or stipulate satisfaction conditions like the logical operators.

Of course, not all words are purely of one type or another. Thus, quickly is a description ('in such-and-such a manner') based on a name, quick, for a kind of relation between events, and devein is a description of an activity based on the name of a crustacean organ.

We can see in coined words, especially nonce forms, that virtually all classes of words are subject to combining processes which derive words which refer by means of description at at least one level. Not only common names, but also proper names may undergo this process. Thus, to Houdini (one's way out of something) (Clark & Clark, 1979) means 'to do like Houdini did' and to Bogart (a joint) must mean to do something like Bogart did. Perhaps eventually they will lose the personal reference and descriptive mechanism and become, as common verbs, merely indexical names for activities--'do that sort of thing'--as boycott and xerox have.[27] (I

gather from my 8-year-old friends that bogart already has. They use it to mean 'to decline to share,' and it is used intransitively and duratively as well as transitively. I wonder how many of them relate it to Humphrey Bogart's mannerisms with cigarettes.) Even expletives can enter into these processes. Someone's three-year-old niece complained of what the dog did to her by saying that he ouched her.

That's All

I have argued that most words[28] in a language are names that are used as rigid designators of kinds: natural kinds (species, genera, etc.), artifacts, physical and social magnitudes, and sorts of activities, states, properties, situations, and events. As a consequence of their being rigid designators, it does not make sense to speak of these words as having senses or meanings; they designate kinds--that's all. That's what it means for a name to be a rigid designator as opposed to being a description. For some words (e.g., orphan, pediatrician, kill, persuade) it does seem appropriate to say that they have a sense or meaning, and to say that it might change in time, whereas with kind-names, when the reference of a term changes, it seems to be because the kind has changed, not the term. A very small number of words seem to lack not only sense, but also reference. Some (e.g., all, and) have this property because they are syncategorematic, but contribute to the semantics of an expression according to logical rules. Others (yikes, damn, the) do not contribute to the sense (truth conditions) at all, but only to the pragmatics, the calculation of what is to be inferred from what was said by reference to the use-conditions governing the employment of such words. And the principles governing the

use of many words involve more than one mechanism of reference or condition for use.

Now, this may not be the sort of picture we are taught to paint. It is not a unified description. It claims some kinds of words work quite differently from other kinds. But I think Putnam is right in saying (1975, p. 290) "To look for any one uniform link between word or thought and object is to look for the occult." On the other hand, my analysis does not entail an unlimited number of kinds of words. I have claimed that there are four or five basic kinds, that most words are like proper names and are used as rigid designators, and that many others involve a rigid designator in the description that constitutes their sense. The main contribution of this discussion, as I see it, is exposing the folly of assuming that the reference of most words is determined straightforwardly by something called their sense or intension (unless intension is understood (attributively) as 'whatever they (rigidly) designate'). Referring by rigid designation is not just a quaint property of proper names, and any theory of semantics which purports to explain the meaning of sentences via the meaning and reference of their constituent parts will have to take account of it.

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Footnotes

[1]This is not to say that I endorse all of the ideas in these works; it will be clear from what follows that I do not.

[2]Labov explicitly rejects (1973, p. 347) accounts that are conjunctions of distinctive features, and warns (347) that his account should not be confused with the point of view that identifies meaning with use. Yet the definition he offers for cup on the basis of interviews with subjects (cited in footnote 5) is a description of use, and explicitly invokes a conjunction of features. Labov (1978) similarly speaks of the (extralinguistic) conditions under which specific terms denote particular objects, and emphasizes the interdependence of criteria.

[3]Before theories of this sort were articulated within the linguistic community, the "standard" linguistic theory of meaning was a behaviorist stimulus-reponse theory which claimed that the meaning of a linguistic form was "the situation in which the speaker utters it and the response which it calls forth in the hearer" (Bloomfield, 1933, p. 139). I have put standard in scare quotes because I have no idea how many linguists really subscribed to this theory; most of the American structuralists simply did not discuss semantics.

[4]According to Fillmore (1975), similar theories were independently proposed by artificial intelligence researchers.

[5]Labov's 1973 theory also represents a view that is in a sense quantitative. That is, the meaning representations for words are algebraic functions with weighting coefficients assigned to each criterion so that his 'definition' for cup is as follows:

The term cup is regularly used to denote round containers with a ratio of width to depth of 1 + r where $r < r_b$, and r_b = $alpha_1$ + $alpha_2$ + . . . $alpha_{nu}$ and $alpha_i$ is a positive quantity when the feature i is present and 0 otherwise.

feature 1 = with one handle
2 = made of opaque vitreous material
3 = used for consumption of food
4 = used for consumption of liquid food
5 = used for consumption of hot liquid food
6 = with a saucer
7 = tapering
8 = circular in cross-section

Cup is used variable to denote such containers with ratios of width to depth of 1 + r where $r_b < r < r_t$ with a probability of $r_t - r/r_t - r_b$. The quantity 1 + r_b expresses the distance from the modal value of width to height.

The more sophisticated formulations in Labov (1978) are quite explicitly dependent on Zadeh's work.

The problem with interpreting this sort of description as a representation of what one knows when one "knows the meaning of a word" is that which is common to all variationist descriptions: it tells with what probability (or how often under certain circumstances) some usage occurs, but not, strictly speaking, what criteria determine when its use is appropriate.

[6]The language learner's task in interpreting a naming statement (or conversely, the language-teacher's task in interpreting a naming question) is not to be underestimated. If a child or other non-speaker points to a peanut butter jar filled with sugar and asks, "What's that?," any answerer has to make a lot of assumptions in order to be able to choose among such potential answers as "sugar," "a jar," "a lid," "red," "glass," "the letter R," etc., cf. Morgan (1978).

[7]I am ignoring as irrelevant the admitted possibility of ambiguous proper names. There undoubtedly are several individuals who bear the name Richard M. Nixon, but who have different essential characteristics.

[8]I am really at a loss as to how to punctuate this. I am accustomed to underlining expressions used as examples of linguistic forms, single-quoting forms used to represent meanings, double-quoting direct quotations and spurious terms (scare quotes), and keeping diacritics off of forms used to refer, all in accordance with the LSA style sheet. But the syntax of these perfectly ordinary clauses forbids the first procedure, and the others are obviously incorrect for what I have in mind.

[9]Nunberg (1978) discusses the common phenomenon of using the same name, in conjunction with the Cooperative Principle, to designate any of a number of entities of quite different kinds according to what he calls Referring Functions. Thus, the phrase the newspaper might refer to a copy of the San Francisco Chronicle, the corporation which publishes the San Francisco Chronicle, an edition of the San Francisco Chronicle, or even a person who had, or wanted, or had had some previously mentioned newspaper (on any of the interpretations mentioned). Even the referring possibilities of proper names can be extended according to Referring Functions; the phrase the San Francisco Chronicle can be used in any of the ways I have said the newspaper can. One of Nunberg's conclusions is that in discussing the determination of the reference of referring expressions, a semantics/pragmatics distinction cannot easily be drawn.

[10]Putnam (1975b, p. 283) also takes referring to be a triadic relation, but his relates a symbol, an entity, and a language.

[11]Or perhaps, better: "is accepted as an English word," but this gets us into questions of whether even knowledge of a word list is, strictly speaking, part of knowledge of the culture of individuals who use English, rather than grammatical knowledge. The grammar, via a classifier or agreement system, may appear to tell us about such things as the natural gender or (other) physical properties of referents of lexical items, but it can only do so probabilistically, for even pronouns don't correlate 100% with natural gender, and I suspect the same is true for the relation of classifiers to, say, physical shape, especially where (originally) metaphorical usages are involved.

[12]Putnam has, in various arguments (e.g., Putnam, 1975a, passim) written as if it were difficult to tell elms from beeches, and assumed that most non-botanists are as ignorant as he is of the difference. Actually, while the general appearance of their leaves is very similar, they have not much else in common. Elms have high, graceful arching branches--rows of them made for a cathedral effect on residential streets in many towns before the Dutch Elm epidemic--while the branches of beeches are more perpendicular to the trunk. Elm bark is dark and rough; beeches are smooth and grey. The seed pods are different also.

[13]Kripke denies that his 100-page exposition of it is anything more than a sketch.

[14]A question like (1), which obviously could only have been asked by a person who believes manned space flight is a relatively routine matter, requires more analysis: to be consistent with and explained by the causal theory of names, the two <u>theys</u> must not be assumed to be coreferential.

1. How come they call spaceships "spaceships" but they just call ships that go on the water "ships" and not "watership?"

Or if they are, then their referent must be a unique committee credited with inventing English, or at least with naming all the kinds. This may be a common folk-belief.

[15]Cf. a child's folk etynology of this sort based on (or supporting) a phonological misanalysis: "I know why they call it 'grabity': because the air grabs you and pulls you down."

[16]Constructing or re-constructing depending on whether the function is an arbitrary, unpredictable one, or one sanctioned by the rules of the grammar (cf. Levi, 1978).

[17]My remarks here are based on personal observations. From conversations with experts in language acquisition, I gather that this has been frequently noticed, but has not been much remarked upon in the literature. (However, cf. de Villiers & de Villiers, 1979, pp. 37-39, for some relevant comments in this regard.)

An incident that occurred shortly after I originally wrote this is perhaps relevant here. I happened to say something about delusions in the presence of two young children. The 27-month-old asked, "What's delusions is?" The other child, not quite five years old, asked "What's <u>delusions</u> mean?" (Unfortunately, I made the mistake of remarking on this difference in their presence, and the younger child began almost immediately to ask the meaning of practically every other word uttered in his presence, e.g., "What's <u>Newsweek</u> mean?" "What's <u>cover-up</u> mean?" "What's <u>Robin</u> [his sister's name] mean?" I take this to indicate that he didn't really

understand what we take to be at issue when someone asks what a word means.)

[18]This is not circular or trivial. Cf. Kripke (1972, p. 284).

[19]Partee (1981) draws essentially this conclusion.

[20]Two examples: he says (1970, p. 144) that the representation of the meaning of the word lemon is "natural kind word" and goes on to say that its (that is, the word's) associated characteristics are: "yellow peel, tart taste, etc." But these are characteristics of fruits, not words.

Elsewhere, he quite succinctly (1975a, p. 249) equates knowledge of kinds with knowledge of word meanings: "An English speaker who had no idea that tigers are striped would be said not to know what a tiger is, not to know the meaning of the word 'tiger'."

[21]Kripke (1972, p. 330) disagrees: "Scientific discoveries of species' essence do not constitute a 'change of meaning'." And cf. Putnam himself (1965, p. 125): "to say that any change in our empirical beliefs about Xs is a change in the meaning of the term 'X' would be to abandon the distinction between questions of meaning and questions of fact." (Actually, the second occurrence of X has no quotes in the original, but, instead, the following footnote: "The second occurrence of 'X' in the sentence in the text should be in quasi-quotes (Quine's 'corners') to avoid a mention-use mistake. I have ignored such logical niceties in the present chapter." Perhaps this accounts for the apparent equivocations I have cited.)

[22]Partee (1981) makes a similar point with evaluational terms such as good, boring, spiteful.

[23]I suppose that the "one-criterion" analysis of _the_ is essentially the Russellian analysis, and the criterion is that of the definition of the iota-operator.

[24]Whether in sewing or cooking.

[25]See Schwartz (1977, pp. 39-40) for a similar distinction.

[26]For discussion of the general nature of occasion-goal-means chains of this sort see Morgan (1978).

[27]Clark and Clark say (1979, p. 783) that innovations like _to Houdini_ and _to teapot_ or _to bottle_ have an indefinitely large number of senses, and that on a given occasion, their sense and denotation is a function of the context in which they occur. I would say that they have a very limited number (if any at all) of standard references, and that their transitory uses are a function of what the speaker chooses them to mean. This might be as vague as 'act like Houdini' or 'do something with a teapot to' or 'do something with a bottle to,' or as specific as 'escape like Houdini did' or 'present a teapot to' or 'put in a bottle' or 'attack with a bottle.' This means that the addressee (or hearer) has to not only guess what the speaker is using them to refer to, but, if he wants to "acquire" the word, guess also whether the mechanism of reference was intended to be relatively specific (and mostly descriptive), or relatively vague (and attributive).

[28]Probably I mean morphemes--Eskimo words are a very different sort of thing from English or Spanish words.